



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/810,256	03/26/2004	Olga E. Shmakova-Lindeman	7780-NES	8310

49459 7590 11/25/2005

NALCO COMPANY
1601 W. DIEHL ROAD
NAPERVILLE, IL 60563-1198

EXAMINER

RICHARD, CHARLES R

ART UNIT	PAPER NUMBER
----------	--------------

1712

DATE MAILED: 11/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/810,256

Applicant(s)

SHMAKOVA-LINDEMAN, OLGA E.

Examiner

C. R. Richard

Art Unit

1712

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☒ Claim(s) 19-20 and 27-28 is/are objected to.
- 8) ☒ Claim(s) 1-28 are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>3/8/2005</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Election/Restrictions

1. This application contains claims directed to a group of patentably distinct species of the claimed invention.

Species Group I : olefinic monomers (see species in claim 1 for example).

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for each of the group given above for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the

case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

During a telephone conversation with Applicant's attorney, Mike Martin, on November 10, 2005, a provisional election was made with traverse to prosecute (I) the olefinic monomer vinyl acetate. Affirmation of this election must be made by Applicant in replying to this Office action. The other species of the group are withdrawn from further consideration by the Examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Information Disclosure Statement

2. The information disclosure statement filed March 8, 2005 fails to comply with 37 CFR 1.98(a)(3) because it does not include a concise explanation of the relevance, as it is presently understood by the individual designated in 37 CFR 1.56(c) most knowledgeable about the content of the information, of each patent listed that is not in the English language. The references in question have been placed in the application file, but the information referred to therein has not been considered, except to the extent that the Examiner has used WO 03/014170 in the rejections below.

Oath/Declaration

3. The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective, because it does not identify the mailing address of each inventor. A mailing address is an address at which an inventor customarily receives his or her mail and may be either a home or business address. The mailing address should include the ZIP Code designation. The mailing address may be provided in an application data sheet or a supplemental oath or declaration. See 37 CFR 1.63(c) and 37 CFR 1.76.

Specification

4. The abstract of the disclosure is objected to because it refers to (a) and (b) without defining them. Correction is required. See MPEP § 608.01(b). Applicant may wish to rewrite the Abstract in the form of a complete sentence.

5. The Examiner notes the definitions that Applicant gives on pages 3-4 of the specification. These will affect the scope of the claims.

Claim Objections

6. Claims 19-20 and 27-28 are objected to because of the following. It is not totally clear what Applicant means by "polymer actives" in these claims, especially considering the wording of claims 27-28. The wording of claims 27-28 seems to indicate that "polymer active" refers only to the polymer of claim 1, yet this is not sensible at least in the overall context of claims 27-28 as written. Appropriate correction is required.

Also as to claims 27-28 in particular, what is being added to the oil? It seems the polymer of claim 1 is intended, but the wording is not totally clear. Appropriate correction is required.

Claim Rejections - 35 USC § 112

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 3, and 8-9 (as well as 4-7 and 10-16 via dependency) are rejected under 35 U.S.C. 112, second paragraph. These claims recite the limitation "the unsaturated monomer". There is insufficient antecedent basis for this limitation in the claim. Claim 1 from which all of the rejected claims depend ultimately has 3 components that are unsaturated monomers (a), (b) and (c). From the wording of claim 9, it appears that Applicant meant to refer to component (c), and that is what the Examiner will take as the meaning in claims 3 and 8-9 as to rejections on the merits that follow.

MPEP Section of Special Relevance

9. Claim 1 and all the other claims by dependency contain the phrase "composed of". Thus, the following from MPEP section 2111.03 [R-2] entitled, "Transitional Phrases", and under the subheading, "Other Transitional Phrases", is of special relevance regarding the rejections that follow.

Art Unit: 1712

The transitional phrase "composed of" has been interpreted in the same manner as either "consisting of" or "consisting essentially of," depending on the facts of the particular case. See *AFG Industries, Inc. v. Cardinal IG Company*, 239 F.3d 1239, 1245, 57 USPQ2d 1776, 1780-81 (Fed. Cir. 2001) (based on specification and other evidence, "composed of" interpreted in same manner as "consisting essentially of"); *In re Bertsch*, 132 F.2d 1014, 1019-20, 56 USPQ 379, 384 (CCPA 1942) ("Composed of" interpreted in same manner as "consisting of"; however, court further remarked that "the words composed of may under certain circumstances be given, in patent law, a broader meaning than consisting of.' ").

Applying these principles, the Examiner takes the position that "composed of" in the context of the claims of the present application is broader than "consisting of", and it is at least as broad as "consisting essentially of". The Examiner was not able to find totally conclusive evidence in the specification either way, so follows the customary procedure of giving the claim it broadest reasonable meaning.

It might be said that the discussion at page 4, lines 18-27 of the specification would argue for a narrower reading of the phrase, but the Examiner points out that this part of the specification is headed by the words "**Preferred** Embodiments". Applicant also recites that "[c]hanges can be made in the composition, ... of the invention deccribed herein without departing from the concept and scope of the invention as defined in the claims" (see page 14, lines 8-10 of the specification). Further, the esters of the polymer to which "composed of" refers commonly cleave to a slight degree and/or exist in equilibrium with the corresponding acid and alcohol under many conditions at which such polymers are made and used.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

11. Claims 1-4, 7-10, 12-15, 17-19 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Winkelblech in US Patent 3,740,367.

Winkelblech discloses a polymer in which has a weight average molecular weight of at least 10,000 [which would overlap a range of number average molecular weight of 1,000 to 150,000 and 10,000 to 100,000] and consists essentially of 20-99 percent by weight of methyl methacrylate, 0-75 percent by weight of ester selected from the group consisting of alkyl acrylates having 4 to 16 carbon atoms and alkyl methacrylates having from 6 to 16 carbon atoms, 0-40 percent by weight of ethylenically unsaturated monomer which may be vinyl acetate, and acid selected from the group consisting of 1-8 percent by weight of acrylic acid, 1-8 percent by weight of methacrylic acid, 4-8

Art Unit: 1712

percent by weight of maleic acid, and 4-8 percent by weight of itaconic acid (see column 1, lines 15-35). A preferred weight average molecular weight is 10,000 to 150,000 (see column 5, lines 60-65) - which would at least overlap the number average ranges called out in the rejected claims.

An aqueous dispersion may be made with these polymers, and a liquid organic agent may be added (see column 1, lines 35-50). 40 to 50 weight percent of polymer may be used in the dispersion (see column 3, lines 65-75); such dispersions would be expected to have freezing points below that of water of 0 deg C (freezing point depression by a non-volatile polymer solute).

As explained above, "composed of" in the rejected claims is taken to mean consisting essentially of. The small amount of acid residues in the polymer above would not be expected to change the properties of the overall polymer significantly. Further, as explained above, an ester only polymer would likely have some residues hydrolyzed to form acid residues anyway resulting in the polymer of Winkelblech. Of course, the polymer and/or dispersion disclosed by the reference would be effective as a paraffin inhibitor.

Winkelblech discloses all of the limitations of the rejected claims in the proper context, but does not specifically give the exact range (or a subrange or value within this range) for vinyl acetate called out in the rejected claims, the exact ranges in claims 12-13 and 14-15, nor the C16-C24 alkyl ester of acrylic acid of claim 13. However, it would be obvious to one of ordinary skill in the art to apply vinyl acetate within the range of 1 to 30 weight percent (and 5 to 15 weight percent) from the teaching of 0 to 40 weight

Art Unit: 1712

percent in Winkelbach (see above) and to apply the ranges called out in claims 12-13 and 14-15 from the corresponding (and at least overlapping) ranges of Winkelblech given above – those in the claims were clearly contemplated by Winkelblech and/or would have been used in the process of obvious and routine optimization of the polymers by one of ordinary skill in the art.

As to the ester in claim 13, this is slightly outside the size of ester disclosed by Winkelblech (19 total carbons minimum versus a maximum of 16 in the reference); however, this ester would have been obvious to one of ordinary skill in the art who had studied Winkelblech, as the esters are very closely related (close in a homologous series of alkyl acrylic acid esters) and would be expected to have about the same properties and uses and so are obvious variants.

Thus the rejected claims are rendered obvious; note that the Examiner did not see any indication of unexpected results corresponding to Applicant's ranges over those of the reference in the specification.

12. Claims 1-12, 14-15 and 17-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over disclosures in the French language document WO 03/014170 which corresponds to the English language document, US Patent Application Publication 2005/0085588 by Baloché et al.

The WO reference teaches dispersions of a polymer latex with a variable composition suited for the reduction of the pour point of crude petroleum hydrocarbons; when they are used to ensure the inhibition of the deposition of paraffins in crude oils,

Art Unit: 1712

they do not require any additive for their incorporation into the crude oils (see page 3, lines 10-17).

The latex dispersions of this invention comprise at least 100 parts by weight of components (1) to (4) below:

(1) 5 to 70, preferably 5 to 58, and advantageously 5 to 50 parts by weight of one or more (co)polymers, whose units come from:

(A) 50 to 100%, preferably 70 to 100%, by weight of one or more monomers of n-alkyl (meth)acrylate type, with n a variant of 6 to 40, preferably 14 to 30;

(B) 0 to 50%, preferably 0 to 30%, by weight of one or more monomers of (meth)acrylic type and/or vinyl type selected from among the n-alkyl (meth)acrylates with n less than or equal to 6 and others such as vinyl acetate;

(C) 0 to 50%, preferably 0 to 30%, by weight of one or more of certain polar monomers; and

(D) either 0 to 0.5% or up to 40% by weight ["up to" includes zero percent] by weight of one or more other selected monomers;

(2) 0 to 30 parts by weight of a co-solvent or a mixture of co-solvents, preferably 5 to 25, and advantageously 5 to 20, parts by weight, selected from among various organic solvents;

(3) 0.1 to 10, preferably 0.1 to 8, and advantageously 0.5 to 5, parts by weight of one or more selected surfactants; and

(4) water in sufficient quantity for the sum of constituents (1) to (4) to represent 100 parts by weight (see page 3, line 18 to page 4, line 29). The dispersion may be 30 to 35 weight percent polymer (see page 5, lines 5-10). Many of these dispersions would be expected to have freezing points below that of water of 0 deg C (freezing point depression by a non-volatile polymer solute).

The following points are illustrated by the Examples. The methods of the examples would yield polymers in the ranges for number average MW of 1,000 to 150,000 and 10,000 to 100,000 - in any case, such would have been made by one of ordinary skill in the art in the obvious and routine process of optimizing the compositions according to the reference; some molecular weight must be chosen in any case. Behenyl acrylates are often used. 300 and 500 ppm of polymer are used in the crudes.

From the teachings of the reference as to crude oil (hydrocarbons), it would have been at least obvious to one of ordinary skill in the art to employ the compositions disclosed there in any crude based product with significant paraffin content to inhibit these paraffins - this includes oil condensates, middle distillates, fuel oil and diesel.

The reference teaches (or at least suggests in the case of some crude oil products as seen above) all of the limitations of the rejected claims (for claim 11, see additional discussion below) in the correct context, but does not teach a specific example of the exact combination of monomers (type/amount) called out in these claims. However, one of ordinary skill in the art would have understood that such was contemplated by the reference, and it would have been obvious to make these compositions and employ them in the methods of the rejected claims accordingly. In any

Art Unit: 1712

case, one of ordinary skill in the art would have made such compositions and employed them according to the methods of the rejected claims in the course of obvious and routine optimization of the compositions of the references as to their ability to act as paraffin inhibitors. Note that as to claim 5, a C16-C24 alkyl ester of acrylic acid would of course be obvious to one of ordinary skill in the art from the disclosure of a C14 to C30 alkyl (meth)acrylate.

As to claim 11, the reference as seen above does teach the behenyl acrylate (would be a component (A)) and the vinyl acetate (component (B)), but does not specifically teach the lauryl methacrylate. However, this lauryl ester would have been obvious to one of ordinary skill in the art from the teaching of (A) being one or more 6 to 40 n-alkyl (meth)acrylates. It is of note that lauryl (C12) is a common alcohol.

Note that the Examiner did not see any indication of unexpected results corresponding to Applicant's selection of monomer types/amounts over those of the reference in the specification.

Allowable Subject Matter

13. Claim 16 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims. This claim is not generic as written, as it is limited to the species elected.

Conclusion

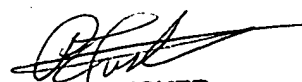
14. The prior art made of record and not relied upon is considered pertinent to Applicant's disclosure: US Patents 6,342,553 and 6,908,886, as well as US Patent Application Publications 2001/0056164 and 2005/0085588.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to C. R. Richard whose telephone number is 571-272-8502. The examiner can normally be reached on M-Th, 8am-6pm and alternate Fridays, 8am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on 571-272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

C R Richard


PHILIP TUCKER
PRIMARY EXAMINER
ART UNIT 1712